1 2 3 4 5 6 7 8 9	Paul R. Kiesel, Esq. (SBN 119854) kiesel@kbla.com KIESEL BOUCHER LARSON LLP 8648 Wilshire Boulevard Beverly Hills, California 90211-2910 Telephone: (310) 854-4444 Facsimile: (310) 854-0812 (Additional counsel listed on signature particular of the property of the proper	RICHARD W. WIEKING CLERK, U.S. DISTRICT COURT NORTHERN DISTRICT OF CALIFORNIA KASH, rs similarly situated
11	UNITED STATES	ES DISTRICT COURT
	NORTHERN DISTR	TRICT OF CALIFORNIA
12	COPELIENT NA IZA CIT. ' - 1'' 1 II) CARROL: 4312
13	STEVEN NAKASH, individually,) and on behalf of all others similarly)	CAUS
/14	situated,) CLASS ACTION COMPLAINT
15	Plaintiffs,) FOR:
16	v.)) (1) Breach of the Implied
17	ľ") Warranty of Merchantability
18)	Pursuant to N.J. Stat. § 12A:
19	NVIDIA CORPORATION,) 2-314) (2) Breach of the Implied Warranty
20	Defendant.	of Merchantability
21) (3) Violations Of The New Jersey
22		Consumer Fraud Act, N.J. Stat. Ann. § 56:8-1, et seq.
23		(4) Unjust Enrichment Under The
24		Common Law Of The State Of
25		New Jersey (5) Unjust Enrichment
26		(3) Offust Emission
27		WIDN COLL DELCANDED
		JURY TRIAL DEMANDED
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	CLASS ACTION	TION COMPLAINT FAXED

Plaintiff STEVEN NAKASH ("Plaintiff"), individually and on behalf of all others similarly situated, by his undersigned counsel, alleges the following upon personal knowledge as to his own acts and upon information and belief as to all other matters. Plaintiff's information and belief is based upon the investigation conducted by counsel.

I.

NATURE OF THE ACTION

- 1. Plaintiff brings this action both in an individual capacity and as a class action against defendant NVIDIA CORPORATION ("NVIDIA" or "Defendant") on his own behalf and on the behalf of all others who purchased a laptop computer equipped with an NVIDIA GeForce 8M Series graphics processing unit (the "NVIDIA GPU") (the "Computers") (hereinafter the "Class"). Any claims that Plaintiff or any member of the Class may have for personal injuries or consequential damages are expressly excluded from this action.
- 2. As demonstrated more fully herein, the NVIDIA GPUs are defectively designed because they are not capable of withstanding normal operation and prematurely cease to function properly.
- 3. As a result of this design defect, the GeForce 8M Series GPUs cease to function properly, resulting in graphic processing issues and improper video

operation.

- 4. Despite Defendant's actual knowledge of the design defect in the GeForce 8M Series GPUs since at least as early as 2007, Defendant has failed to, inter alia, inform Plaintiff and members of the Class of the existence of the design defect -- a clearly material fact -- at the time of sale or purchase.
- 5. As a result of the facts alleged herein, Defendant has violated the laws governing consumer protection and unjust enrichment and breached the implied warranty of merchantability.

II.

THE PARTIES

- 6. Plaintiff Steven Nakash is a citizen of Monmouth County, New Jersey. In February of 2008, Plaintiff purchased a Dell manufactured Vostro 1700 Notebook Computer equipped with a GeForce 8600M GPU directly from a Dell-authorized reseller.
- 7. Defendant NVIDIA is a Delaware corporation that maintains its corporate headquarters at 2701 San Tomas Expressway, Santa Clara, California, 95050. According to Defendant NVIDIA's website, "NVIDIA is the world leader in visual computing technologies and the inventor of the GPU, a high-performance processor which generates breathtaking, interactive graphics on workstations, personal computers, game consoles, and mobile devices. NVIDIA serves the

entertainment and consumer market with its GeForce products... NVIDIA is headquartered in Santa Clara, Calif. and has offices throughout Asia, Europe, and the Americas."

- 8. According to NVIDIA's website, "desktop and notebook PCs equipped with GeForce GPUs deliver unparalleled performance, crisp photos, high-definition video playback, and ultra-realistic games. GeForce notebook GPUs also include advanced power management technology to deliver high performance without sacrificing battery life."
- 9. In the GPU manufacturing market, NVIDIA is the second leading producer of GPUs worldwide (as of the second quarter of fiscal 2008), controlling 31.4 percent of the market:

2d quarter	Market share	A year ago	Market share	Growth Yr-Yr
44.67	47.3%	30.59	37.6%	46.0%
29.63	31.4%	26.48	32.5%	11.9%
17.11	18.1%	15.86	19.5%	7.9%
	44.67 29.63	44.67 47.3% 29.63 31.4%	44.67 47.3% 30.59 29.63 31.4% 26.48	29.63 31.4% 26.48 32.5%

III. JURISDICTION AND VENUE

10. This action is brought to remedy violations of the laws governing consumer protection, unjust enrichment and the implied warranty of

merchantability in connection with Defendant's misconduct as it relates to its the design, manufacture and sale of the defective GeForce 8M Series GPUs.

- 11. This Court has jurisdiction over the claims asserted in this action pursuant to 28 U.S.C. § 1332 as diversity between the parties exists and the matter in controversy exceeds the sum or value of \$5,000,000.
- 12. Venue is proper in this Judicial District because Defendant conducts substantial business activity, including advertising, marketing, distribution, and sale of the NVIDIA GPU's in this Judicial District and maintains its executive offices in this District.

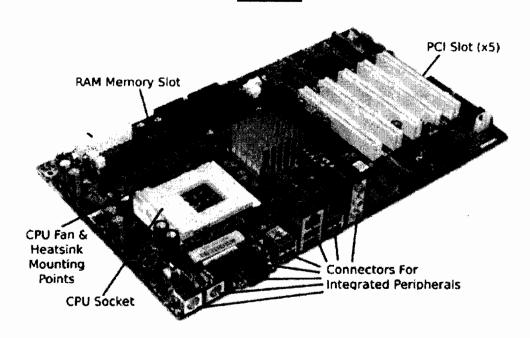
IV.

SUBSTANTIVE ALLEGATIONS

- 13. In order to more fully understand the design defect alleged herein, it is helpful to first examine the integral parts and processes involved, including: (i) the Computer's graphics display process; and (ii) the structure and operation of the GPU.
- 14. Every laptop computer contains a *Central Processing Unit* ("*CPU*"). The CPU is the equivalent to the "brain" of the computer and oversees and controls every programming function. In order for the CPU to operate properly, it must "connect" with the other supplementary internal components of the computer. The CPU connects to these other internal components through the computer's

 motherboard. The motherboard is the main circuit board and houses the CPU, memory, graphics card, sound card, hard drive(s) and other miscellaneous hardware components. See Figure 1 below.

Figure 1



The Graphics Card and GPU

- In order for a computer to properly and seamlessly display images and 15. videos on the display monitor, the CPU sends data information to the graphics card which is affixed to the computer's Motherboard. The graphics card's function is to generate and output images to a display. It operates on similar principles as a sound card or other peripheral devices.
- 16. The primary component of the graphics card is the *GPU*. See Figures 2 and 3 below. The GPU is the device dedicated to rendering graphics for a

personal computer, workstation, or game console. A GPU is designed specifically for performing complex mathematical and geometric calculations that are necessary for graphics rendering.

Figure 2

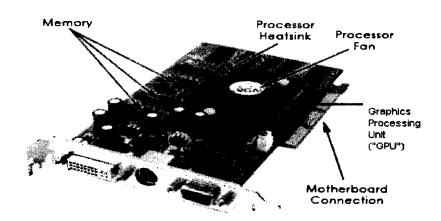
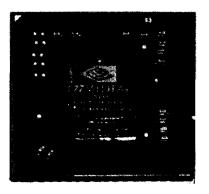


Figure 3

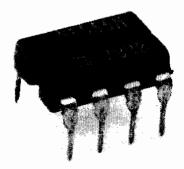


17. The GPU functions in a relatively simple manner. A computer system, through its CPU, sends its graphics card information about an image and the GPU processes this information and decides how to use the pixels sent by the CPU to create the desired image. The GPU then sends the fully processed

information to the display monitor, usually via a monitor cable, and processes the information onto the display monitor to display the desired image.

18. To protect the fragile GPU from damage, the GPU is placed into a chip package, or chip carrier. See Figure 4 below. The chip package is then either mounted or soldered onto the graphics card. The most modern packaging technology uses eutectic solder bumping. A 'eutectic' or 'eutectic mixture' is a mixture at such proportions that the melting point is as low as possible and all ingredients crystallize simultaneously at this temperature.

Figure 4



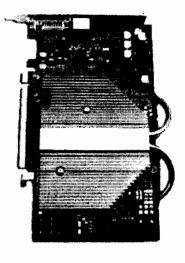
GPU and Heat Control

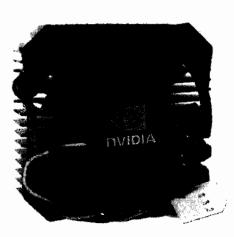
19. The GPU produces a large amount of heat during normal operation and it is for this reason that the GPU is usually located around a heat sink or under

a processor fan. A heat sink is an object placed onto the graphics card that absorbs and dissipates the heat emanating from the GPU. See Figure 6 below. The processor fan rotates in the same way a domestic cooling fan does and cools down the immediate environment surrounding the GPU. See Figure 7 below.

Figure 6

Figure 7





20. A *die* is a small block of semiconductor material on which a given functional circuit is fabricated. Typically, integrated circuits are produced in large batches on a single wafer. A *wafer* is made out of extremely pure silicon that is grown into mono-crystalline cylindrical ingots (boules) up to 300mm in diameter (about 12 inches). These ingots are then sliced into wafers about 0.75mm thick and polished to obtain a flat surface. The wafer is then cut into many pieces, each containing a copy of the circuit. As explained more fully below, the die

component of the NVIDIA GeForce 8M Series GPUs is not sufficiently robust to withstand normal operation.

The NVIDIA GPUs Are Defectively Designed

21. The GeForce 8M Series GPUs are defective because they prematurely cease to operate due to an insufficiently robust die/ packaging material set. Once the GPU ceases to operate, the Computer's display monitor exhibits the following symptoms, including, but not limited to: (i) video related issues (e.g. no video); (ii) multiple images on the display screen; (iii) random characters on the display screen; or (iv) horizontal or vertical lines on the display screen.

Consumer Complaints Regarding The Defective NVIDIA GPUs

- 22. As a result of the design defect, hundreds of consumers who purchased the Computers have experienced Computer crashes due to the NVIDIA GPU failures as evidenced by the hundreds of consumer complaints on the Internet.
- 23. Defendant had actual knowledge of the design defect in the NVIDIA GPUs since at least as early as 2007 due to, *inter alia*, numerous consumer complaints posted on the Internet. Excerpts of some of these complaints are set forth below:

1	Model Number	Comments
		Comments
2	and Source	
3	Dell Vostro 1510	Here I have a brand new Dell Vostro 1510 laptop.
4	Bit-tech.net	It has 2.0GHz CPU and Geforce 8400M GS
5	May 2008	256MB graphics card. I am worried about the
6		graphics card and CPU temperatures. While
7		browsing the internet GPU temperature is
8		about 62-63C and CPU temp is about 52-55C.
9		These temperatures were about 15-20C less on
10		my Inspiron 6400
11	Dell XPS M1530	So I had just finished gaming for about an hour on
12	Notebookreview.co	Call of Duty 4, let my notebook sit there for about
13	m	another hour, and when I came back, my
14	June 2008	computer was frozen and it was displaying red
15		artifacts all over the screen. I thought no
16		problem, I'll just restart. Unfortunately, upon
17		boot up, there was only a white screen that
18		slowly faded into a black screen with
19		multicolored vertical and horizontal lines I
20		figured that my video card had burnt out or
21		something like that. I called XPS support and they
22		said that they'll replace the motherboard/video
23		card. I was wondering if this has happened to
24		anyone else with an 8600GT. I see a huge
25		thread about the XPS M1330 with vertical lines
26		crash, which seems similar to my situation.
27		Also, my laptop is only 5 months old, and I have
28		not done any overclocking.

1	Apple
2	Apple.com
3	July 2008
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My GPU is always way hotter than my CPU		
even when I'm running very basic		
applications Now, I know that Nvidia has		
reported problems with some of their mobile		
GPU, but no details as of which GPUs are		
affected. Did anyone else notice the same		
problem?		

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Asus F3SV Theinquirer.net July 2008

I've had heat issues with my ASUS F3SV since about 6 months ago, (its 9 months old) but always attributed it to other things. Within the last 2 months or so things have gotten noticeably worse, with unexpected shutdowns and failed reboots with a black screen while I can hear the fan spinning. The bell curve, hot/cold/hot again being the cause of laptops showing up with heat issues more frequently as they progress in their lifecycles seems to make perfect sense in my case. I'm going to send it back to ASUS for repairs, but ultimately the laptop I paid for wasn't supposed to run with the fan at full blast to keep it cool and drain the battery life because of it. I don't really want the same laptop back now, I would rather take the money and wait till this is cleaned up, but what choice will I have? I'm sure ASUS won't do much more than, at best, replace the defective old parts with defective new parts so that it lives out its life long enough to survive the warranty period. I'm in Canada, and I doubt there is much I can do, but I'll definitely be looking into it. Any advice? NVidia's silence on the affected parts and failure to come clean about the extent of the problem has forever lost them a customer.

Asus F3SV
Theinquirer.net
July 2008

Laptop died on me last Friday and is only just over a year old, an ASUS F3SV with a 8600M GS. I had noticed bands of vertical stripes and artifacts for about a week beforehand. Now all I get is a blue screen after attempting to load windows. Laptop has always run hotter than others I've had in the past. GPU temps have been 60-70 degrees C when idle and up to 105 degrees C after a short period of time using Asus stock drivers. Luckily it is still under warranty but I don't want it replaced like for like, due to reading this and other experiences I've read on many different forums. I'm still waiting to hear from the techs at Asus on what they will do regarding this matter. I hope I haven't ended up with a very expensive paperweight.

ECS Theinquirer.net July 2008

We have two Nvidia products here that have failed too. Namely, an ECS laptop that uses an Nvidia GPU (can't remember which though... 7300, 8300 or 8400. I'm not the one using the laptop and can't check it now because the thing's not displaying anything). Service personnel say the graphics chip went AWOL. Also, I have an Nvidia based mobo (MSI K9N Neo-F, Nvidia MCP 550) that has also gone the way of the dodo. Service says it must be the chipset. Mobo goes nuts when it's been on for a while and heat has built up, so maybe the Nvidia chip packaging is the culprit there too. I've been using the board happily for 9 months before this happened. I don't know if anyone else is having the same problems. I'm just relating my own experiences.

1	Dell M1330
2	Direct2Dell.com
2	July 2008
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17	Toshiba Satellite
18	Pro U400
19	Notebookreview.co
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21	July 2008
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My M1330's mainboard has already been replaced (graphics cards failuire) after much brouhaha - it only took 1 week even though we have next business day support and already the new one has started to "act up". How many more mainboard replacements will Dell do? If Dell *does* care about its customers it should *at least* provide the same level of service as HP, i.e. replacing the mainboard with *fixed* graphics from ATI/AMD if NVIDIA cannot supply a fixed solution. Dell has been attacking HP over many issues here with their posts, it is time to put their money where their mouth is and show us that they can do better than HP not just empty words? There are more than just empty words, right? My Toshiba Satellite Pro U400 (also a 13") has exactly the same behavior with the CPU temp and fan. I'm glad to have seen your report because now I can stop wondering whether I should have bought the 1310 instead. I guess that is just how the smaller models are, as leof

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CLASS ACTION COMPLAINT

already and can't go any lower.

says. Undervolting doesn't help on mine

because it spends most of its time at 0.95V

1	Dell	FINALLY! Someone has written about how I'm
2	Theinquirer.net	NOT crazy, and it IS Nvidia's fault that my
3	July 2008	laptop died. If anyone cares, it was a Dell, not
4		an HP. Too bad I sold the parts because no one
5		believed me (even though it was the absolute
6		truth). There needs to be a criminal investigation
7		on this Nvidia is screwing people over.
8	Dell XPS M1330	Well this explains why both of my m1330's dell
9	Theinquirer.net	laptops have both had their GPU's die and
10	July 2008	required motherboard replacements within the
11		first 4 months (8400gs integrated on
12		motherboard). And why there are a million
13		threads on the m1330 dying the same way,
14		graphics go corrupt/vertical lines on screen. I
15		sure as sugar hope Dell is going to be replacing
16		the motherboards with an updated unaffected
17		Nvidia GPU.
18	Dell XPS M1330	I have a Dell XPS 1330m with the 8400m chip
19	Theinquirer.net	I have had to have Dell replace my
20	July 2008	motherboard twice in the past 6 months due to
21		the 8400m failure.
22		The Dell tech guy said he goes out on calls all
23		day long with this same problem.
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CLASS ACTION COMPLAINT

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Dell Vostro 1400 Notebookreview.co m July 2008

I believe I have a defective graphics card and was wondering if you guys could give me some help in finding out for sure and some possible solutions ... the display is split in to six parts all showing the desktop. This happens even when I start the computer, it will show the same display on the BIOS loading screen, even also in safe mode. I have installed and uninstalled my graphics card drivers for the 8400gs which didn't work, I have reset all my services and settings to their factory settings which didn't work either. All other hardware on my laptop seems to be working. Problems with the graphics first started a month when I noticed that the graphics card would now idle at about 60 degrees C instead of its normal 45-50 degrees C range. It really got messed up when I was playing a game of America's army and the display just completely froze and then everything got a weird pinkish hue then it just crashed. It doesn't even show the bsod when it crashes it just simply freezes and then restarts. I have heard claims about defective graphics cards but was under the impression that Dell Vostros weren't affected. My warranty doesn't expire till late **next month** so that's my backup in case I can't fix it. Any help would be greatly appreciated. Thanks.

MacBook Pro Macrumors.com August 2008

Starting yesterday, it seems that my GPU is dying. Every now and then my screen will either freeze or have particles all over. I just tried booting up to WoW and it froze with particles. I bought the MBP in June 07 when the new revisions came out (2.4 8600GT). I can't believe this is happening to me the day before my trip to Europe. I'm really disappointed that I've only had this laptop for a little over a year putting extremely limited stress to it. I have not purchased AppleCare for it either.

What's should I do? I would really appreciate any help with this. It's crazy that I've been reading these stories about GPUs dying in Macbook Pros last week and BAM! Mine has to bite the dust as well... is Apple doing anything about this? Thanks.

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Dell Vostro 1400

August 2008

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Notebookreview.co

Is my graphics card dying? I own a Dell Vostro		
1400 (8400M Version). Just lately it's gone a little		
crazy. I push the power button, the blue Dell logo		
comes up and loads, but instead of filling the		
whole screen, the screen is split up into six		
parts! I have six of the Dell logos on my screen!		
This continues onto the Windows loading screen,		
which after it restarts and does exactly the same		
thing. It does run abnormally hot (has done		
ever since I brought it), so I don't know if that		
has anything to do with it? Any ideas? Is my		
graphics card dead? Unfortunately my Dell		
warranty expired not long ago which sucks cause		
now its probably going to cost me		

(Emphasis added, edited for readability purposes).

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Defendant Had Actual Knowledge Of The Design Defect Since At Least As Early As November 2007 But Failed To Acknowledge The Defect Until July 2008

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24. Defendant NVIDIA knew or should have known about the design defect found in the NVIDIA GPUs at least as early as November of 2007 because of an investigation undertaken by Hewlett Packard ("HP"), to whom NVIDIA provided large quantities of the defective chip for use in HP brand notebooks.

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25. Specifically, HP conducted an investigation into suspected defects in its laptops containing the NVIDIA GPUs. As a result of this investigation HP

identified 24 models affected by the defect and pinpointed the symptoms manifested by the defective NVIDIA GPU

- 26. The scope and detail of HP's investigation, and the fact that HP immediately made its customers and the public aware of the problem, shows beyond any reasonable doubt that NVIDIA became aware of the defect when the warranty extension program was initiated in November 2007, if not sooner.
- 27. Despite NVIDIA's knowledge of the HP investigation and its findings, NVIDIA refused to publicly recognize the problem until NVIDIA's July 2, 2008 filing of a Form 8-K with the Securities and Exchange Commission ("SEC"), a full eight months after the initiation of the HP program.

<u>Defendant Has Admitted That The NVIDIA GPUs Are Defective, But Has</u> <u>Failed To Institute A Recall</u>

28. In its July 2, 2008 Form 8-K Defendant admitted to the existence of the design defect found in the NVIDIA GPUs:

On July 2, 2008, NVIDIA Corporation stated that it would take a \$150 million to \$200 million charge against cost of revenue to cover anticipated customer warranty, repair, return, replacement and other consequential costs and expenses arising from a weak die/packaging material set in certain versions of our previous generation MCP and GPU products used in notebook systems. All newly manufactured products and all products currently shipping in volume have a different and more robust material set.

The previous generation MCP and GPU products that are

impacted were included in a number of notebook products that

were shipped and sold in significant quantities. Certain notebook

configurations of these MCP and GPU products are failing in the

field at higher than normal rates. While we have not been able to

determine a root cause for these failures, testing suggests a weak

material set of die/package combination, system thermal

management designs, and customer use patterns are contributing

factors. We have developed and have made available for download a

software driver to cause the system fan to begin operation at the

powering up of the system and reduce the thermal stress on these

chips. We have also recommended to our customers that they consider

changing the thermal management of the MCP and GPU products in

their notebook system designs. We intend to fully support our

customers in their repair and replacement of these impacted MCP and

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GPU products that fail.

(Emphasis added).

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admitted the existence of the design defect and stated the following:

Company Lowers Financial Outlook for Second Quarter and Plans to
Take One-Time Charge for Certain Notebook Field Failures

"Second Quarter Fiscal 2009 Business Update" whereby Defendant yet again

On the same day, Defendant issued a press release and provided a

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NVIDIA Corporation (Nasdaq: NVDA), the world leader in visual computing technologies, today provided a business update for its second quarter ending July 27, 2008.

Separately, NVIDIA plans to take a one-time charge from \$150 million to \$200 million against cost of revenue for the second quarter to cover anticipated warranty, repair, return, replacement and other costs and expenses, arising from a weak die/packaging material set in certain versions of its previous generation GPU and MCP products used in notebook systems. Certain notebook configurations with GPUs and MCPs manufactured with a certain die/packaging material set are failing in the field at higher than normal rates. To date, abnormal failure rates with systems other than certain notebook systems have not been seen. NVIDIA has initiated discussions with its supply chain regarding this material set issue and the Company will also seek to access insurance coverage for this matter.

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Regarding the notebook field failures, NVIDIA president and CEO Jen-Hsun Huang stated "although the failure appears related to the combination of the interaction between the chip material set and system design, we have a responsibility to our customers and will take our part in resolving this problem....

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Huang added, "This has been a challenging experience for us. However, the lessons we've learned will help us build far more

robust products in the future, and become a more valuable system design partner to our customers. As for the present, we have switched production to a more robust die/package material set and are working proactively with our OEM partners to develop system management software that will provide better thermal management to the GPU."

(Emphasis added).

30. In the foregoing SEC filing and press release, Defendant admitted that the NVIDIA GPUs are defective, yet, remarkably, has failed to take any steps to make Plaintiff and members of the Class whole. Instead of recalling the defective NVIDIA GPUs and sending Plaintiff and members of the Class non-defective NVIDIA GPUs with a "more robust material set" at NVIDIA's expense, NVIDIA has been content to sit and wait until their products fail.

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31. EE|Times, a well-respected electronics industry newspaper, reported on July 2, 2008, that, according to an internal email from an NVIDIA spokesman,

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Defendant NVIDIA denied the need for a recall:

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"We didn't recall any chips. We've replaced the products. We've changed our packaging and we've developed and distributed a software driver to help avoid the failures."

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> 32. Although NVIDIA has taken steps to remedy its products on a goingforward basis, it has failed to take any corrective measures with respect to the

GeForce 8M Series GPUs that were previously purchased by consumers.

33. Defendant issued another press release on August 12, 2008 where it reported results for the second quarter of Fiscal 2009:

During the second quarter of fiscal 2009, NVIDIA recorded a \$196 million charge against cost of revenue to cover anticipated customer warranty, repair, return, replacement and associated costs arising from a weak die/packaging material set in certain versions of our previous generation MCP and GPU products used in notebook systems.

<u>Defendant Has Admitted That The Design Defect Found In The GeForce 8M</u> Series GPUs Is Material

- 34. Defendant has admitted that the NVIDIA GPUs fail due to a design defect, as opposed to a manufacturing defect, when it stated in the July 2, 2008 press release that "it is critical that we now work more closely with notebook system designers and our chip foundries to ensure that the GPU and the system are **designed** collaboratively for the best performance and robustness." (Emphasis added).
- 35. Furthermore, the design defect described herein was a material fact related to the reliability of the NVIDIA GPUs and the Computers known only to Defendant.
 - 36. Had Plaintiff and members of the Class known about the defect, they

would not have purchased their Computers with NVIDIA GPUs.

- 37. Despite knowledge of this material design defect, Defendant NVIDIA has consistently dodged and shifted the blame away from itself and onto its suppliers, laptop manufacturers and, preposterously, its consumers. Indeed, in the July 2, 2008 Form 8-K, Defendant NVIDIA stated that "testing suggests a weak material set of die/package combination (*i.e.* the GPU suppliers), system thermal management designs (*i.e.* the laptop manufacturers), and customer use patterns are contributing factors (*i.e.* the consumers)."
- 38. Specifically, EE|Times reported on July 2, 2008 that "NVIDIA... pointed the finger at one of its foundry partners: Taiwan Semiconductor Manufacturing Co. Ltd." in an internal e-mail between the companies when first explaining the design defect problem. NVIDIA states in the e-mail that the "packaging was supplied by TSMC."
- 39. Despite the fact that Defendant NVIDIA attempted to publicly shift the blame to other market players, the July 2, 2008 article by EE|Times reported that Defendant NVIDIA <u>internally</u> admitted responsibility for the design defect found in the NVIDIA 8M Series GPUs:

Then, in another e-mail, Nvidia did an about-face. "Bottom line: We take responsibility for this," the Nvidia spokesman said. "We worked closely with TSMC on packaging and the material."

 * * *

"With regards to TSMC, we are not 'blaming' TSMC," the Nvidia spokesman said in the second e-mail. "Also, to be clear, the material set was co-qualified between [Nvidia] and TSMC."

Instead of Recalling The Defective 8M Series GPUs, NVIDIA Has Been Content To Sit On The Side-lines While OEMs Institute Inadequate Remedies That Do Not Cure The Defect

- 40. Instead of issuing a recall of the defective NVIDIA GPUs, NVIDIA has silently watched as OEMs such as Dell, Acer and HP, institute inadequate remedies, as described below that do not cure the defect.
- 41. For example, on July 25, 2008, Dell announced on its Direct2Dell.com website that it is providing a software update for certain --but not all Dell Notebooks containing the defective GeForce 8M Series GPUs. Dell's purported "solution" consisted of upgrading the computer's BIOS which would cause the computer processor fan to run more frequently in an effort to control the temperature fluctuations that inevitably result from the defect:

Earlier this month, sites like Ars Technica and ZDNet blogged about NVIDIA's statement regarding a potential issue with some of NVIDIA's Graphics Processing Units (GPUs) used in notebooks. According to NVIDIA, these affected GPUs are experiencing higher than expected failure rates causing video problems. Though

this issue is not unique to Dell, some of these affected GPUs are used in certain Dell laptops. . . .

The issue is a weak die/packaging material set, which may fail with GPU temperature fluctuations. If your GPU fails, you may see intermittent symptoms during early stages of failure that include:

- Multiple images
- Random characters on the screen
- Lines on the screen
- No video

Dell recommends that you flash your system BIOS (see links in the table below). Each of these BIOS updates listed in the table below modifies the fan profile to help regulate GPU temperature fluctuations. Note: if you are already experiencing video-related issues like the bullet points above, updating the BIOS will not correct them. Dell will provide support for customers who have experienced GPU failure according to the terms of the system warranty.

(Emphasis added).

42. However, this purported "solution" is anything but a "fix." Dell's BIOS updates do *nothing* to remedy the defect except cause the computer fan to run longer and more frequently, in an effort to stave off the overheating that will invariably result from the defect in the NVIDIA GPUs. However, this approach does not prevent the defect from manifesting itself; rather it merely delays the onset of the defect, likely until the Computers' warranty expires so that the Class members will be forced to pay for the repairs. Moreover, the BIOS update can

lead to other serious consequences: running the computer's fan for longer periods of time shortens the computer's battery life and also puts undue strain on the fan, putting it at risk of failing earlier than intended.

43. On August 19, 2008, the *Wall Street Journal* recognized the fact that customers are not satisfied with NVIDIA's or the OEM's response to the defect, and reported the following:

Nvidia Corp. often gets good reviews for its technology. But the way the chip maker and two computer manufacturers are handling a product defect hasn't pleased some critics, adding to a series of headaches for the Silicon Valley company.

The problem affects an undisclosed number of laptop computers, stopping them from booting up, causing display screens to go dark and other problems. Nvidia has traced it to packaging materials used on some chips that manage graphics and other functions, which can fail if they get too hot. The company disclosed the problem last month and is taking a \$196 million reserve to cover computer makers' costs in addressing it.

Nvidia hasn't recalled the affected chips or identified which models have problems. Dell Inc. and Hewlett-Packard Co., the two customers that have so far announced plans for coping with the problem, said they won't repair affected laptops until they fail.

But some consumers who posted complaints on Web message boards don't seem satisfied with the BIOS fix, knowing they own computers that could stop working. "I hope Dell realizes that people will not be happy until their graphics cards are replaced," wrote one customer on the computer maker's site. Added another: "I did not pay for a high-

. .

end logic bomb."

• • •

(Emphasis added).

44. On August 13, 2008, Techspot.com clearly stated that NVIDIA's response to the defect is wholly inadequate:

Yesterday, it was speculated that there were manufacturing defects in the G92 and G94 chipsets, on top of the already known bad parts in the G84 and G86 series. Nvidia may have tried to avoid blame here and there, but ultimately it is coming down on them and they have been stuck with warranty replacements galore. Even if the newer chipsets are fine, it doesn't do anything to remedy the mass amounts of defective ones already sold.

(Emphasis added).

The GPU Failures Are More Widespread Than Defendant Has Acknowledged

- 45. Despite Defendant's assertions in its July 2, 2008 press release that "to date, abnormal failure rates with systems other than certain notebook systems have not been seen," the evidence suggests that the problem is more widespread. Upon information and belief, the entire GeForce 8 Series may be defective.
- 46. A July 9, 2008 article posted on TheInquirer.com, a website focusing on technological processes and current events in the electronics field, asserts that

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the application-specific integrated circuit ("ASIC") is identical in every single NVIDIA G84 and G86 chip. Because of this, the article states, any computer equipped with either of these chips will eventually manifest the consequences of the defect:

The short story is that all the G84 and G86 parts are bad. Period. No exceptions. All of them, mobile and desktop, use the exact same ASIC, so expect them to go south in inordinate numbers as well. There are caveats however, and we will detail those in a bit.

[...]

Basically, NV seems to have told each analyst a highly personalised version of the story, and stonewalls everyone else who asks. Why? The magnitude of the problem is huge. If Dell and HP hold their feet to the fire, anyone want to bet that \$200 million won't cover it? This has all the hallmarks of things the SEC used to investigate in a time before government was purchasable.

The other problem is the long tail. Failures occur due to heat cycling, cold -> hot -> cold for the non-engineers out there. If you remember, we said all G84s and G86s are affected, and all are the same ASIC, so why aren't the desktop parts dying? They are, you are just low enough on the bell curve that you don't see it in number that set off alarm bells publicly yet.

Laptops get turned on and off many times in a day, and due to the power management, throttle down much more than desktops. This has them going through the heat cycle multiple times in a day, whereas desktops typically get turned on and off once a day, sometimes left on for weeks at a time. Failures like this are typically on a bell curve, so they start out slow, build up, then tail off.

Since laptops and desktops have a different "customer use patterns", they are at different points on the bell curve. Laptops have got to the, "we can't bury this anymore" point, desktops haven't, but they will - guaranteed. The biggest question is

whether or not they will be under warranty at that point, not whether or not they are defective. They are.

(Emphasis added).

47. Upon information and belief, the specialized circuit is identical in every NVIDIA GPU, and every unit can eventually fail. The problem could affect a considerable number of laptop and desktop computers, even more than are currently manifesting with the problem.

V.

CLASS ACTION ALLEGATIONS

- 48. Plaintiff brings this class action pursuant to Rule 23 of the Federal Rules of Civil Procedure on his own behalf and on the behalf of all others who purchased a laptop computer that was equipped with an NVIDIA GPU. Excluded from the Class is Defendant, any entity that has a controlling interest in Defendant and Defendant's current or former directors or officers. Any claims for personal injury or consequential damages are expressly excluded from this class action.
- 49. Plaintiff meets the prerequisites to bring this action on behalf of the Class because:
 - (a) Numerosity: Upon information and belief, the Class consists of thousands of individuals and is so numerous that joinder of all members as individual plaintiffs is impracticable. While the exact number of Class members is unknown and can only be ascertained via

discovery, Plaintiff believes that there are thousands of Class members.

- (b) <u>Commonality</u>: There are questions of law and fact common to the Class, including:
 - (i) Whether Defendant has breached the implied warranty of merchantability to the Class;
 - (ii) Whether the Computers are merchantable as a result of the design defect in the NVIDIA GPU;
 - (iii) Whether Defendant was unjustly enriched by the retention of the non-gratuitous benefits conferred by Plaintiff and members of the Class;
 - (iv) Whether Defendant violated New Jersey's Consumer Fraud Act codified under N.J. Stat. Ann. § 56:8-1 et seq.;
 - (v) Whether the Computers are defective because they are equipped with NVIDIA GPUs composed from a weak material set of die/ package combination;
 - (vi) Whether Defendant knew, or was reckless in not knowing, that the Computers are defective; and
 - (vii) Whether, as a result of Defendant's misconduct, Plaintiff

and the Class are entitled to damages, restitution, equitable relief or other relief, and the amount and nature of such relief.

- (c) Typicality: Plaintiff's claims are typical of the claims of the Class because Plaintiff and members of the Class each sustained damages arising out of Defendant's wrongful conduct as complained of herein; and
- (d) Adequacy: Plaintiff will fairly and adequately protect the interests of the Class. Plaintiff has no interests that are antagonistic to, or in conflict with, the interests of the Class as a whole, and has engaged competent counsel, highly experienced in class actions and complex litigation.
- 50. A class action is superior to all other available methods for this controversy because: (i) the prosecution of separate actions by the members of the Class would create a risk of adjudications with respect to individual members of the Class that would, as a practical matter, be dispositive of the interests of the other members not parties to the adjudications, or substantially impair or impede their ability to protect their interests; (ii) the prosecution of separate actions by the members of the Class would create a risk of inconsistent or varying adjudications with respect to the individual members of the Class, which would establish

incompatible standards of conduct for Defendant; (iii) Defendant acted or refused to act on grounds generally applicable to the Class; and (iv) questions of law and fact common to members of the Class predominate over any questions affecting only individual members, and a class action is superior to other available methods for the fair and efficient adjudication of the controversy.

VI.

FIRST CUASE OF ACTION

(By Plaintiff, individually, and on behalf of all Class members who purchased a Computer equipped with an NVIDIA GPU in the State of New Jersey against Defendant for Breach of the Implied Warranty of Merchantability Pursuant to N.J. Stat. § 12A: 2-314)

- 51. Plaintiff hereby incorporates the above allegations by reference as if set forth herein at length.
- 52. As a seller and manufacturer of GPUs, Defendant is a "merchant," within the meaning of New Jersey's statute governing the implied warranty of merchantability.
- 53. The NVIDIA GPUs are "goods," within the meaning of New Jersey's statute governing the implied warranty of merchantability.
- 54. Implied in the sale of the NVIDIA GPUs is a warranty of merchantability that requires, among other things, that the NVIDIA GPUs pass without objection in the trade and are fit for the ordinary purposes for which the

 NVIDIA GPUs are used.

- 55. Because the NVIDIA GPUs are defective, as a result of being composed from a weak material set of die/ package combination, the NVIDIA GPUs are not able to function in their ordinary capacities and were therefore not merchantable at the times they were sold, as impliedly warranted by Defendant.
- 56. The cost of the NVIDIA GPU was reflected in the price that Plaintiff paid for the Computer.
- 57. Defendant was put on notice of the defect by the numerous complaints that it received concerning the defect, and by the filing of this lawsuit.
- 58. Moreover, Defendant knew or should have known about the design defect found in the NVIDIA GPU chips in November of 2007 because of an HP investigation into the failures of its laptops containing the NVIDIA GPUs.
- 59. Any purported limitation of remedies on the part of Defendant fails of its essential purpose.
- 60. The defect in the NVIDIA GPU rendered the GPUs not merchantable and thereby proximately caused Plaintiff and Class members who purchased the Computers to suffer economic damages in an amount to be ascertained at trial.

VII.

SECOND CAUSE OF ACTION

(By Plaintiff, individually, and on behalf of all Class members who purchased a Computer equipped with a NVIDIA GPU in the following states: Alaska;

Hawaii; Indiana; Michigan; New Jersey; Pennsylvania or South Dakota against Defendant for Breach of the Implied Warranty of Merchantability)

- 61. Plaintiff hereby incorporates the above allegations by reference as if set forth herein at length.
- 62. At all relevant times, the following statutes were in effect governing the implied warranties of merchantability in the various states listed in this Count: Alaska Stat. § 45.02.314; Haw. Rev. Stat. § 490:2-314; Burns Ind. Code Ann. § 26-1-2-314; Mich. CLS § 440.2314; N.J. Stat. § 12A:2-314; Pa. Cons. Stat. § 2-314 and South Dakota Cod. Laws § 57A-2-314.
- 63. As a seller and manufacturer of GPUs, Defendant is a "merchant," within the meaning of the various states' commercial codes governing the implied warranty of merchantability.
- 64. The NVIDIA GPUs are "goods," as defined in the various states' commercial codes governing the implied warranty of merchantability.
- 65. Implied in the sale of the NVIDIA GPU is a warranty of merchantability that requires, among other things, that the NVIDIA GPU pass without objection in the trade and are fit for the ordinary purposes for which the GPUs are used.
- 66. Because the NVIDIA GPU are defective, as a result of being composed from a weak material set of die/ package combination, the GPUs are not

able to function in their ordinary capacities and were therefore not merchantable at the times they were sold, as impliedly warranted by Defendant.

- 67. The cost of the NVIDIA GPU was reflected in the price that Plaintiff and other members of the Class paid for their Computers.
- 68. Defendant was put on notice of the defect by the numerous complaints that Defendant received concerning the defect, and by the filing of this lawsuit.
- 69. Moreover, Defendant knew or should have known about the design defect found in the NVIDIA GPU chips in November of 2007 because of an HP investigation into the failures of its laptops containing the NVIDIA GPUs.
- 70. Any purported limitation of remedies on the part of Defendant fails of its essential purpose.
- 71. The defect in the NVIDIA GPU rendered the GPUs not merchantable and thereby proximately caused Plaintiff and Class members to suffer economic damages in an amount to be ascertained at trial.

VIII.

THIRD CAUSE OF ACTION

(By Plaintiff, Individually, And On Behalf Of All Class Members who purchased a Computer equipped with a NVIDIA GPU in The State Of New Jersey For Violations Of The New Jersey Consumer Fraud Act, N.J. Stat. Ann. § 56:8-1 et seq.)

72. Plaintiff hereby incorporates the above allegations by reference as if

set forth herein at length.

- 73. At all relevant times herein, New Jersey's Consumer Fraud Act codified under N.J. Stat. Ann. § 56:8-1 et seq., was in effect. The Act prohibits any "[f]raud, etc., in connection with sale or advertisement of merchandise or real estate as unlawful practice."
- 74. Furthermore, the Act prohibits any "knowing, concealment, suppression, or omission of any material fact with the intent that others rely upon such concealment, suppression or omission in connection with the sale . . . of any merchandise . . . " N.J. Stat. Ann. § 56:8-2.
- 75. Defendant manufactured and sold the defectively designed NVIDIA GPUs. They are defective because they are composed from a weak material set of die/ package combination. Once the GPU ceases to operate, the Computer's display monitor exhibits one of the following symptoms, including, but not limited to: (i) video related issues (e.g. no video); (ii) multiple images on the display screen; (iii) random characters on the display screen; or (iv) horizontal or vertical lines on the display screen.
- 76. Defendant was put on notice of the defect by the numerous complaints that it received concerning the defect, and by the filing of this lawsuit.
- 77. Moreover, Defendant knew or should have known about the design defect found in the NVIDIA GPU chips in November of 2007 because of an HP

investigation into the failures of its laptops containing the NVIDIA GPUs.

- 78. Despite Defendant's knowledge of the design defect, it knowingly omitted this clearly material fact with the intent that Plaintiff and Class Members rely upon this material omission. Instead, Defendant continually placed defective NVIDIA GPUs into the stream of commerce.
- 79. Had Defendant properly disclosed the existence of the design defect, Plaintiff and the members of the Class would not have purchased their Computers because the existence of the design defect was a material fact to the transaction. Defendant, at all relevant times, knew that Plaintiff and members of the Class did not know or could not have reasonably discovered the defect prior to their purchases.
- 80. Defendant's conduct constitutes a violation of New Jersey's Consumer Fraud Act codified under N.J. Stat. Ann. § 56:8-1 et seq., and entitles Plaintiff and members of the Class to statutory and actual damages, injunctive relief and attorney fees and costs.

IX.

FOURTH CAUSE OF ACTION

(By Plaintiff, individually, and on behalf of all Class members who purchased a Computer equipped with a NVIDIA GPU in the State of New Jersey against Defendant for Unjust Enrichment Under The Common Law Of The State Of New Jersey)

- 81. Plaintiff hereby incorporates the above allegations by reference as if set forth herein at length.
- 82. This Count is brought against Defendant pursuant to the common law doctrine of unjust enrichment.
- 83. Defendant manufactured and sold the defectively designed NVIDIA GPUs. They are defective because they are composed from a weak material set of die/ package combination. Once the GPU ceases to operate, the Computer's display monitor exhibits one of the following symptoms, including, but not limited to: (i) video related issues (e.g. no video); (ii) multiple images on the display screen; (iii) random characters on the display screen; or (iv) horizontal or vertical lines on the display screen.
- 84. Defendant was put on notice of the defect by the numerous complaints that it received concerning the defect, and by the filing of this lawsuit.
- 85. Moreover, Defendant knew or should have known about the design defect found in the NVIDIA GPU chips in November of 2007 because of an HP investigation into the failures of its laptops containing the NVIDIA GPUs.
- 86. Despite Defendant's knowledge of the defect, Defendant has failed to disclose the existence of the defect (a material fact) to Plaintiff and members of the Class at the times each of them purchased their Computers.
 - 87. Plaintiff and members of the Class conferred upon Defendant, without

knowledge of the design defect, benefits which were non-gratuitous.

88. Defendant accepted or retained the non-gratuitous benefits conferred by Plaintiff and members of the Class despite Defendant's knowledge of the design defect in the NVIDIA GPUs. Retaining the non-gratuitous benefits conferred upon Defendant by Plaintiff and members of the Class under these circumstances made Defendant's retention of the non-gratuitous benefits unjust and inequitable.

89. Because Defendant's retention of the non-gratuitous benefits conferred by Plaintiff and members of the Class is unjust and inequitable, Defendant must pay restitution in a manner established by the Court.

X.

FIFTH CAUSE OF ACTION

(By Plaintiff, individually, and on behalf of all Class members who purchased a Computer equipped with a NVIDIA GPU in the following states: Arkansas, California, Colorado, Connecticut, Hawaii, Indiana, Iowa, Michigan, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, Oklahoma, Vermont Or West Virginia against Defendant For Unjust Enrichment)

- 90. Plaintiff hereby incorporates the above allegations by reference as if set forth herein at length.
- 91. This Count is brought against Defendant pursuant to the common law doctrine of unjust enrichment.

- 92. Defendant manufactured and sold the defectively designed NVIDIA GPUs. They are defective because they are composed from a weak material set of die/ package combination. Once the GPU ceases to operate, the Computer's display monitor exhibits one of the following symptoms, including, but not limited to: (i) video related issues (e.g. no video); (ii) multiple images on the display screen; (iii) random characters on the display screen; or (iv) horizontal or vertical lines on the display screen.
- 93. Defendant was put on notice of the defect by the numerous complaints that it received concerning the defect, and by the filing of this lawsuit.
- 94. Moreover, Defendant knew or should have known about the design defect found in the NVIDIA GPU chips in November of 2007 because of an HP investigation into the failures of its laptops containing the NVIDIA GPUs.
- 95. Despite Defendant's knowledge of the defect, Defendant has failed to disclose the existence of the defect (a material fact) to Plaintiff and members of the Class at the times each of them purchased their Computers.
- 96. Plaintiff and members of the Class conferred upon Defendant, without knowledge of the design defect, benefits which were non-gratuitous.
- 97. Defendant accepted or retained the non-gratuitous benefits conferred by Plaintiff and members of the Class despite Defendant's knowledge of the design defect in the NVIDIA GPUs. Retaining the non-gratuitous benefits conferred upon

Defendant by Plaintiff and members of the Class under these circumstances made

Defendant's retention of the non-gratuitous benefits unjust and inequitable.

98. Because Defendant's retention of the non-gratuitous benefits conferred by Plaintiff and members of the Class is unjust and inequitable, Defendant must pay restitution in a manner established by the Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs and all Class members pray that this Court:

- a. Certify this action as a class action under Rule 23;
- Order Defendant to pay Plaintiff and members of the Class an amount of actual damages to be determined at trial;
- c. Issue an injunction preventing Defendant from manufacturing and selling the NVIDIA GPUs;
- e. Issue an order granting Plaintiff reasonable costs and attorney's fees; and
- f. Grant such other relief as may be just and proper.

DEMAND FOR TRIAL BY JURY

Plaintiffs demand a trial by jury on all issues so triable as a matter of right.

Dated: September 11, 2008 KIESEL BOUCHER LARSON

By:

Paul R. Kiesel, Esq. 8648 Wilshire Boulevard

CLASS ACTION COMPLAINT

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